

**MOVE FAST
AND
MAKE THINGS BULLETPROOF**

Eugene Naumenko/Apr 23, 2020

DARK SIDE OF THE FORCE



Normal work procedure



With Social Distancing



Work From Home

CONTEXT

Teams Integrated Business Environment

- 10+ companies under the single umbrella
- doing business in and across several countries
- have outgrown Excel
- need an integrated solution ("*OS for business*")
- don't want/can't/aren't morally ready to pay full price
- virtually nonexistent market for business software for small/medium business

REQUIREMENTS

Teams Integrated Business Environment

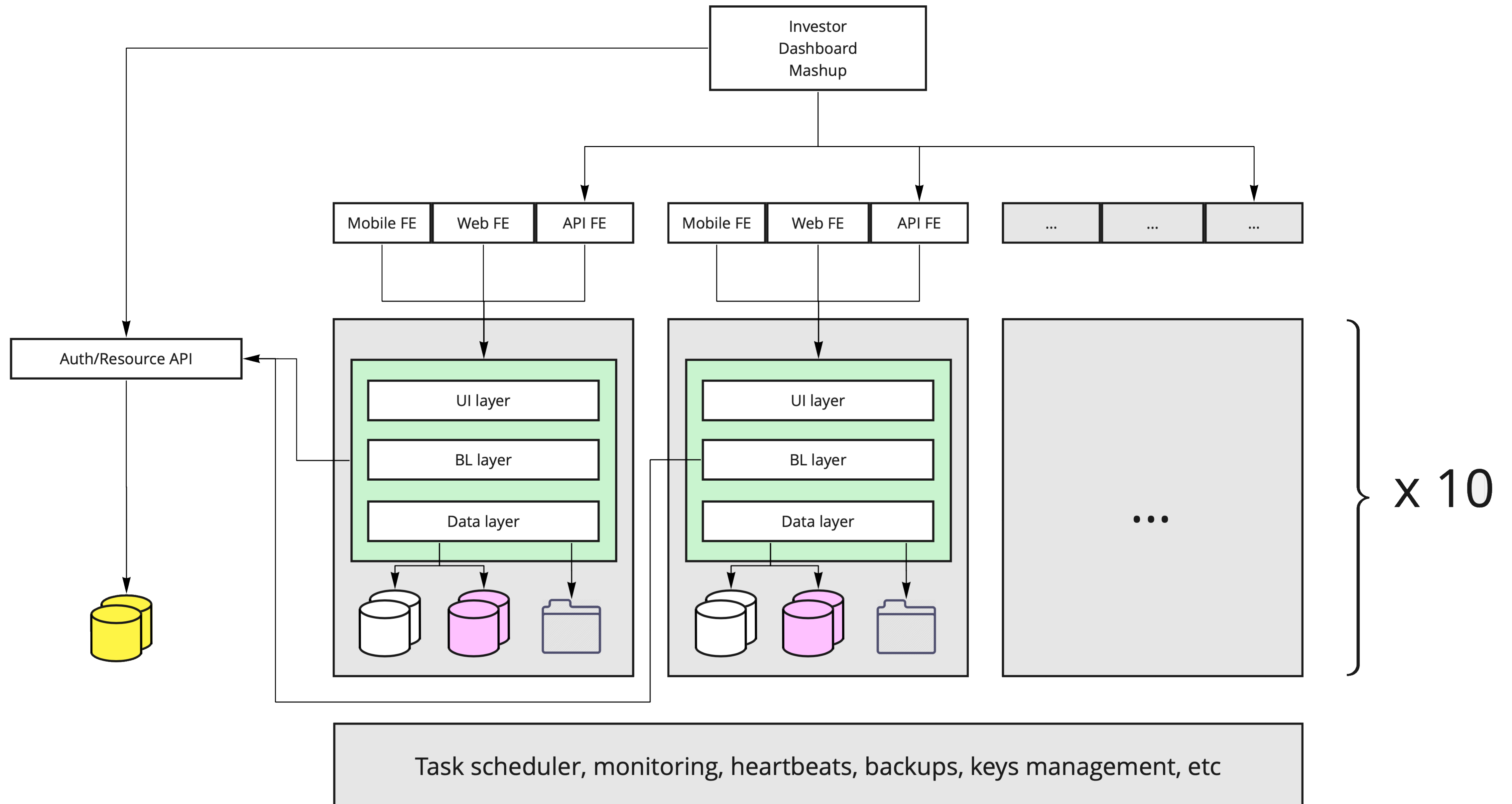
- Full stack business management: supply chain, manufacturing, logistics, sales, customs, CRM, accounting, financials, employees, salaries etc
- for each market and market segment
- complicated business and accounting rules
- cascading and ad hoc access control
- auditing by investors and regulators
- and *more*

APPROACH

Teams Integrated Business Environment

- Fixed price:
 - minimize workforce
 - automate all the things
 - implement as SaaS
- Huge scale:
 - implement piece by piece
 - make pieces work together
- Flexibility:
 - outsource business rules creation to business people
 - get accidental complexity out of the way

THE BIG PICTURE



TACTICS

- Standalone services
- Automatic UI generation
- Automatic forms generation
- Automatic SQL queries generation
- Automatic validation
- Automatic ABAC scopes and rules
- Automatic audit logs/undo functionality
- Unified error handling
- Unified values handling
- High-level business rules language
- OOP, interfaces, inheritance, incapsulation
 - all from a declarative data definition, rules definition, relations definition, copy-pasted from Excel

TACTICS

- Standalone services
- Automatic UI generation
- Automatic forms generation
- Automatic SQL queries generation
- Automatic validation
- Automatic ABAC scopes and rules

Microservices
(category)

Natural transformation

Natural transformation

Natural transformation

Applicative Functor

Functor

- Automatic audit logs/undo functionality
- Unified error handling
- Unified values handling
- High-level business rules language
- OOP, interfaces, inheritance, encapsulation

Immutable data model

Functor

Functor

(free monad) DSL

Algebras &
algebraic properties

– all from a declarative approach,
a math-based approach
provides the ultimate tool
for business logic in Excel

SOURCE OF TRUTH

Any business logic contains an ad hoc, informally-specified, bug-ridden, slow implementation of category theoretic apparatus

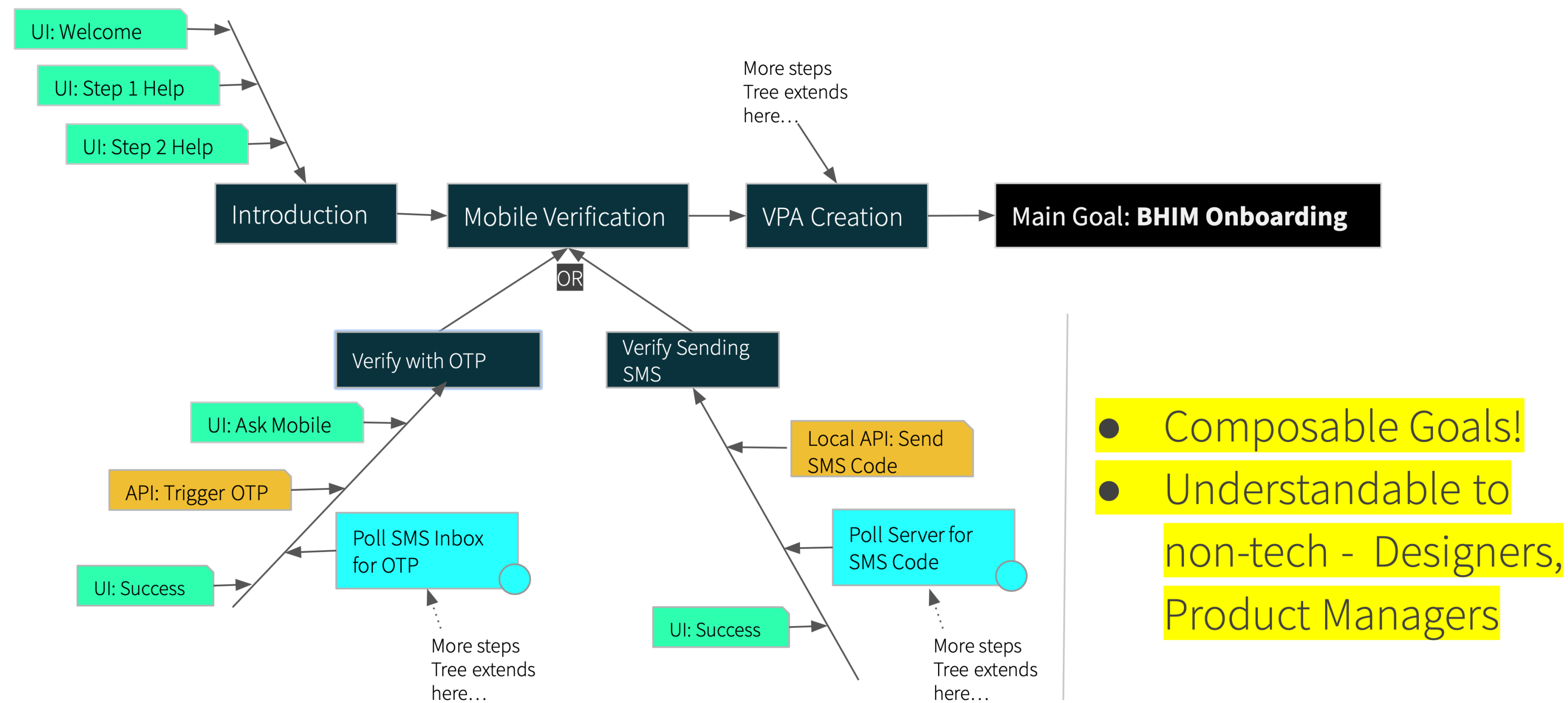
~~“Any sufficiently complicated C or Fortran program contains an ad hoc, informally-specified, bug-ridden, slow implementation of half of Common Lisp.”~~

https://en.wikipedia.org/wiki/Greenspun%27s_tenth_rule

VISUAL SYNTAX

obviously.

FLOWS ORGANIZED AS GOAL TREES



$(Q \rightarrow A) \rightarrow \text{Zoom } Q \rightarrow \text{Zoom } A$